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ABSTRACT

This paper addresses how early childhood center design can improve the quality of these centers in terms of health, safety, and the appropriate development of the child. It briefly explores educational trends involving early childhood centers, then addresses the key spaces in these centers designers should focus on, including the classroom, outdoor space, multipurpose room, health center, teachers' work space, and administrative area. It also explores the key issues in designing early childhood centers concerning health and safety, developmentally appropriate environment, play areas, and overall size. Final comments discuss placing early childhood centers in schools. (Contains 20 references.) (GR)

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Early Childhood Centers

National Clearinghouse for Educational Facilities

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Early childhood centers have become a common and necessary part of millions of Americans' lives. More women in the workforce, longer workweeks, and educational research supporting the importance of early education have all contributed to the rise of early childhood centers throughout the United States. Today, more than 30 percent of children under the age of three and almost 50 percent of children between the ages of three and five attend an early childhood center for some part of their day (Children's Defense Fund 1999).

An early childhood center is considered a nonresidential facility that provides care for at least 13 children. This digest focuses on how design can improve the quality of such centers, where quality is seen as the health, safety, and appropriate development of the child (see NAEYC 2000 for comprehensive accreditation guidelines).

Educational Trends

Researchers have identified a child's first three years as critical for the development of language, attention span, social skills, and problem-solving capabilities (Carnegie Corporation 1994: 3). Quality early childhood centers promote school readiness, enhance verbal ability, and decrease the likelihood of reading difficulties later in school. One recent study found that the effects of quality care persisted even into adulthood (quoted in Children's Defense Fund 1999).

Yet, given the importance of quality early childhood care, well-designed early childhood centers are lacking in the United States. A 1995 study found that more than 40 percent of the early childhood centers serving infant and toddler programs are so poorly run that they imperil the children's health and safety. In fact, only one in seven early childhood centers provided good quality care for children overall (Helburn *et al* 1995: 1–2). Such statistics are even more alarming for centers serving low-income and minority children.

Key Spaces in Early Childhood Centers

The early childhood center is traditionally composed of six main areas: the classroom(s), an outdoor space, a multipurpose room, a health center, a teachers' workspace, and an administrative office. All spaces in an early childhood center should be easily accessible for handicapped students and meet Americans with Disabilities Act (ADA) and local guidelines concerning accessibility (Office of Civil Rights 1999). An early childhood center that operates a full-day program may also need a food preparation area. In addition, consideration should be given to an entrance area that provides a comfortable and inviting place for parents and caregivers to drop off and pick up their children. Such a space can serve the important function of providing an informal area for discussions between parents, teachers, and administrators.

Classroom. Research has shown that classroom size should be between 42 and 50 square feet per child. While many states require a minimum of 35 square feet per child, a larger classroom allows more programmatic flexibility, provides space so children can engage in concurrent quiet and active play, and decreases aggressive behavior (Moore 1987: 59–62).

It is also important that the classroom have a high degree of spatial differentiation (Sanoff 1995: 8–9). Activity areas may be separated by physical objects such as movable partitions and cabinets or by visual cues such as different flooring materials, wall colors, and changes in lighting and ceiling or floor height (Passantino 1993: 11; Caples 1996: 15). Such distinct and well-defined boundaries support social interaction, encourage exploratory behavior, and prevent interruption of ongoing play. In general, the classroom should have at least four distinct activity zones (Lowman and Ruhmann 1998: 12–13).

- **Gross-motor skill zone.** Both toddlers and preschool-age children need space to dance, climb, jump, and move things. The space should be large enough to accommodate structures, such as a slide or a tunnel, and be open enough to allow for push-and-pull and riding toys.
- **Dramatic play zone.** Make believe and pretend play are important for pre-kindergarten youth. Providing "home-center" props, such as kitchen appliances, living room furniture, or a theater area, facilitates such play. While the dramatic play zone should be adjacent to the gross-motor skill zone to allow for easy movement between the

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two, a clear division between the spaces should be visible to promote a sense of semiprivate space.

- **Arts and crafts zone.** This is the "wet" area of the room where children can experiment with sand, water, paint, paste, and other messy materials. The arts and crafts zone should be next to a water source, such as a sink and gooseneck faucet, and should have a washable floor covering. Good task lighting is also important for doing art projects.
- **Quiet zone.** Young children need personal space that permits intimate interaction with an adult and provides a space for solitary play, looking at books, or simply resting. The quiet zone should have carpeting, comfortable chairs and pillows, a low bookshelf for books and stuffed toys, and a space (that may need to be out of reach of toddlers) for objects such as plants or an aquarium.

The classroom should also have a self-contained bathroom that is equipped for toilet training and diaper changing. The toilet and all fixtures should be age appropriate. High shelving should be provided to store diapers, towels, and the like.

Outdoor space. An outdoor space should allow for both free and structured play. Outdoor space can be seen as an extension of the indoor environment, with a garden, a quiet area, and a dramatic play area (North Carolina School Design Clearinghouse 1998). A covered outdoor space should be available for playtime during inclement weather. Shading is also recommended to avoid excessive sun for young children. A hard surface should be available for bicycles, and playground equipment should be appropriately scaled. Rubber flooring or another resilient surface should be used throughout to prevent major accidents and injuries. Fencing around the outdoor space is an important safety and security feature.

Multipurpose room. A multipurpose room may be used for napping, eating, or large group activities. This space may also be used for parents and volunteers if a dedicated space for such activities is not available. Providing private spaces in the multipurpose room will allow for parent conferences, adult interaction, and a reading area to review informational materials provided for parents. In general, the space should be flexible and equipped with modular furniture, multiple lighting zones, and numerous electrical and data outlets.

Health center. The health center should include a waiting area, examination room, toilet, rest area, and office. Furnishings should include lockable cabinets for records and medications, a lockable refrigerator with icemaker, and partitions to allow for privacy.

Teachers' workspace. This area should provide space for teacher preparation and relaxation. The space should accommodate private activities, such as telephone conversations and reading, group activities, and collaborative planning. It should be wired for voice, video, and data equipment and furnished with appropriate outlets and room for computers, copy machine, file cabinets, professional library, refrigerator, and television. Teachers should be able to lock the workspace.

Administrative area. The administrative area should be located directly adjacent to the center's entry so that school officials may observe and supervise individuals entering and leaving the premises. It should provide adequate space for secretarial and administrative personnel as well as for computers, faxes, phones, copy machines, and filing cabinets. A waiting area for parents and toilets for adult use should also be available.

Key Issues in Designing Early Childhood Centers

Research has shown that well-functioning early childhood centers are not just scaled-down versions of elementary schools or simply open play spaces. Early childhood centers should address particular design issues, such as those described below, to achieve a safe, enjoyable, and educational environment.

Safety and health. The safety and health of the child is of paramount importance in the early childhood center. Safety features such as fastened carpeting, scald-proof faucets, covered electrical outlets, and gates on stairways should be standard throughout the facility. Toilet-training and diaper-changing facilities should be removed from the play and food preparation areas. On a social and psychological level, the environment should convey a sense of stability and "softness" through simple design features, task lighting, and the use of textures and colors.

A developmentally appropriate environment. It is important to provide differing environments to best meet the needs of children in different age groups. All children can benefit to a certain extent from observing other children, listening to music or conversation, touching different types of materials and surfaces, interacting with caregivers, and physically exploring a space. Nevertheless, infants, toddlers, and preschool children all have unique skills and developmental needs (for a detailed overview, see NNCC 2000).

- **Infants.** Infants progress rapidly through physical, cognitive, and socio-emotional development. Some implications for design include providing furnishings (such as high rails and gates) that promote safety, spaces that allow for crawling, and quiet spaces for sleeping and interacting with care providers.
- **Toddlers.** By the age of one, toddlers begin walking, talking, and interacting with others. Toddlers begin to master fine and gross motor skills, become toilet trained, and take a strong interest in the world around them. Some implications for design include providing spaces that permit both highly active and passive play, and learning centers that allow for engaged activity.

- **Preschoolers.** Three-to-five-year-old children learn to share, have a strong command of language and fine and gross motor skills, a sense of independence and exploration, and a highly active imagination. But they often fear new places and develop separation anxiety from their primary caregivers. Some implications for design include providing a wide variety of activity centers, places for group activities, and a play/pretend area that can encourage dramatic play.

Discovery and play. The environment should permit growth and discovery. Young children need spaces where they feel both autonomous and masterful. Furnishings should be light and easily moved, shelving should be at the appropriate height, and space should permit active and quiet recreation. The surroundings should provide adequate sensory stimulation and may include such items as a mirror, wind chimes, and a flower/garden area. Care should be taken that the space lessens external noise and provides acoustical dampening (Maxwell and Evans 1999). Furthermore, the environment should have character and charm. Oftentimes the most distinctive attributes of a space are also the least expensive: painted designs and murals add color and distinctiveness; mobiles and differentiated walls and floors provide patterns and unique visual features. The less an early childhood center feels like an institutional space and the more it resembles a homelike environment, the better.

Size. An early childhood center should contain between 60 and 75 children (Moore 1996: 23). Research has consistently shown that as early childhood centers increase in size, the programmatic aspects begin to focus on rules and the management of large numbers of children (Prescott 1994: 9–10; Weinstein 1987: 166–67). If the early childhood center is to have a larger capacity, independent wings or units of 60 to 75 children should be designed with separate entrances. This allows the center to maintain a small-scale and homelike environment for parents, students, and teachers.

School-Based Early Childhood Centers. Educators have begun to view the early childhood center as a vital component in preparing children to come to school ready to learn (Carnegie Task Force on Learning 1996: 133). Placing early childhood centers within schools is, therefore, becoming popular. School-based childhood centers offer numerous benefits. They provide "one stop" convenience for parents with more than one child (Deemer *et al* 1998: 43); allow teenage parents to continue their education by providing a facility where their child is close by (Coburn 1999); and attract and retain teachers who have young children and are seeking convenient and high-quality early childhood centers (Jacobson 1999).

An early childhood center needs to address several issues, such as entrance access and security, in the context of being an integral part of the school. Because most parents will need to park and take their children into the facility rather than simply drop them off (as is done with school-age children), the early childhood center will need a separate entrance and parking area. This requires reconfiguring traffic and parking patterns, providing visible signage for the early childhood entrance, and having a large entrance area to accommodate high usage in the mornings and afternoons. Security issues include providing adequate external lighting for the parking and entrance areas and restricted circulation patterns between the early childhood center and the rest of the school. Older students, teachers, and administrators from the school should have access to the early childhood center. At the same time, it should be easy to control and prevent access to the early childhood center during nonschool hours and holidays when the school is closed.

School-based childhood centers are not without controversy. Schools have been criticized recently for a "push down" movement, where kindergarten classes take on the academic formality of later grades. Placing early childhood centers in schools may further this trend and reinforce a more rigid environment upon very young children. And, providing teen parents access to a school-based early childhood center raises difficult questions of how our society should respond to the issue of teenage pregnancy.

The quality care of young children is becoming an important political, educational, and social concern. As research continues to mount on the importance of the first years of life, it is worth remembering that early childhood centers serve children from their first months of life until they begin school. The design of an early childhood center is, thus, a crucial component of the quality of care offered to our children.

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Additional Information

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